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EXAMINER

WIN, AUNG T

ART UNIT PAPER NUMBER

2645

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/942,759

Applicant(s)

AMI ET AL.

Examiner

Aung T. Win

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 19 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Specification***

1. Specification submitted on April 11, 2005 has been considered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1-12, 19 & 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "according to Bluetooth specification" on Page 4, Line 9 & Line 11. The use of "protocols" or "standards" or "specifications", "protocols" or "standards" or "specifications" change over time, hence, it is inappropriate to have the scope of a claim change with time. Since organizations implementing standards or specifications meet regularly and have the authority to modify standards or specifications, any connection a claim may have to these specifications may vary scope over time. Therefore it renders Claim 1 indefinite.

Claim 5, recites "according to Bluetooth specification" on page 5, Line 5 of Claim 5, is rejected for the same reasons stated above in Claim 1.

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Claim 6, recites "according to Bluetooth specification" on page 5, Line 3 & Line 6 of

Claim 6, is rejected for the same reasons stated above in Claim 1.

Claim 11, recites "according to Bluetooth specification" on page 7, Line 1, is rejected for the same reasons stated above in Claim 1.

Claim 12, recites "according to Bluetooth specification" on page 7, Line 4 of Claim 12, is rejected for the same reasons stated above in Claim 1.

Claim 19, recites "according to Bluetooth specification" on page 7, Line 2 & Line 5, and on Page 8, Line 2, is rejected for the same reasons stated above in Claim 1.

Claim 21, recites "according to Bluetooth specification" on page 8, Line 2, Line 12 and Line 14, is rejected for the same reasons stated above in Claim 1.

Claim 1 also recites "without connecting with said one transmission device as a reception device" on Page 4, Line 10. It is unclear to examiner whether "one transmission device as reception device" means "one transmission device is reception device" or "one transmission device and reception device". Therefore, it renders the Claim 1 indefinite.

Claim 6 is rejected for the same reason as stated in Claim 1 above because Claim 6

also recites "without connecting with said one transmission device as a reception device" on Page 5, Line 5 of Claim 6.

Claim 19 is rejected for the same reason as stated in Claim 1 above because Claim 19 also recites "without connecting with said one transmission device as a reception device" on Page 8, Line 2.

Claim 21 is rejected for the same reason as stated in Claim 1 above because Claim 21 also recites "without connecting with said one transmission device as a reception device" on Page 8, Line 5 of 14 of Claim 21.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 19 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callaway (U.S. Patent Number: US006275500B1) in view of Haartsen (U.S. Patent Number: US006590928B1).

Regarding Claims 1 and 21, Callaway discloses a broadcast type service system comprising:

at least one transmission device (at least one of a plurality of communication devices acting as slaves capable of communication with the master and capable of communication with at least another one of the plurality of communication devices); a reception information providing device (a transceiver operating as master); and a plurality of reception devices (a plurality of communication devices acting as slaves) [Column 5, Line 10-17]

each transmission device (a first slave of the plurality of communication devices) having: a transmission device communication unit (Transceiver 50) [Figure 15] configured to carry out communications with the reception information providing device (Master communication device) and the reception devices (a plurality of communication devices acting as slaves) (configured to transmit a communication request to the master communication device to carry out communication with the reception devices) and a transmission device control unit (Processor 58) [Figure 15] configured to control the transmission device communication unit to transmit application data (data packets) to at least one reception device (a second slave of the plurality of communication devices) and to transmit (transmit to request) a reception establishing information of each transmission device (communication resource parameter such as frequency, modulation, protocol, data rate, etc.) [Column 3, Line 50-52 and Line 63-67] which is necessary for a reception device to receive the application data transmitted from each transmission device [Figure 13] [Column 5, Line 9-39] [Column 7, Line 19-46];

the reception information providing device (Master communication device) having: a reception information providing device communication unit (Transceiver acting as

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master) configured to carry out communications with each transmission device (a first slave of the plurality of communication devices) and the reception devices (the plurality of slaves communication devices); and a reception information providing device control unit (Processor 58) configured to control the reception information providing device communication unit to receive the reception establishing information (communication resource parameter such as frequency, modulation, protocol, data rate, etc.) of each transmission device transmitted from each transmission device (to receive acknowledgement of the reception establishing information from a first slave of the plurality of communication devices), and to transmit the reception establishing information of a specified transmission device to a prescribed reception device (to transmit the reception establishing information assigned to a first slave of the plurality of communication devices to a second slave of the plurality of communication devices) [Column 3, Line 26-30] [Figure 13] [Column 5, Line 9-39] [Column 7, Line 19-46]; and each reception device having (a second slave of the plurality of communication devices): a reception device communication unit (Transceiver) configured to carry out communications with each transmission device and the reception information providing device; and a reception device control unit (processor) configured to control the reception device communication unit to receive the reception establishing information of one transmission device (a first slave of the plurality of communication devices) transmitted from the reception information providing device (master communication device), and to receive the application data (data packet) transmitted from said one transmission device according to the reception establishing information of said one

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transmission device (according to the reception establishing information assigned to a first slave of the plurality of communication devices) [Figure 13] [Column 5, Line 9-39] [Column 7, Line 19-46].

Callaway discloses that the reception information providing device (Master communication device) directs and sets up the second communication source in order for the transmission device and reception device to communicate each other directly for higher data link. Callaway also teaches that the master act as the intermediary for all slave-to-slave communications under Bluetooth 1.0 system for parked slaves but Callaway fails to explicitly disclose that all the parked slaves device communicate each other indirectly through the master device.

Haartsen also discloses a star topology configuration of the wireless network including master and slave units. Haartsen also teaches that slaves cannot communicate directly with each other, but need to use the master as an intermediary device [Column 12, Line 32-34].

Therefore, it would have been obvious to one of ordinary skill in the art to modify Callaway broadcast type system with the star topology as taught by Haartsen in order for the transmission device to transmit application data to the reception device without connecting the reception device directly with the transmission device by using the master device (a reception information providing device) as intermediary device. One of ordinary skill in the art would have been motivated to do this to provide variable data



rate services to the subscribers depending on the subscribers' demands.

4. Regarding Claim 19, which is a method claim corresponding to Claim 1 is rejected for the same reasons as stated above because the claimed steps read on the corresponding means on Claim 1.

5. Regarding Claims 2 and 3, Callaway discloses all the limitation in the Claim 1. Callaway further discloses the programmable processor integrated in Bluetooth Transceiver 50 [Figure 15]. Therefore one of ordinary skilled in the art would have recognized that the reception information providing device is implemented with either a memory unit to store the reception establishing information received by the reception device communication unit for the processor to process in accordance with the reception establishing information or implemented with a plurality of memory units configured to separately store the reception establishing information of a plurality of transmission devices (transmission devices from different piconets) by the reception device communication unit.

6. Regarding Claim 4, Callaway discloses all the limitations in Claim 1 and further discloses the acknowledgement step initiated by master communication device necessary for the two communication devices agreement to the parameters assigned by the master communication devices [Column 3, Line 56-67]. Therefore, one of ordinary skilled in the art would have recognized that the master communication device (the

reception information providing device) is capable of performing service specification comparison between two communication devices and controlling the communications at an acceptable communication level between two communication devices.

7. Regarding Claim 5, Callaway further discloses that the transmission device control unit of each transmission device is also configured to control the transmission device communication unit to transmit the application data (data packets) even when there is no reception device (second slave of plurality of communication devices) that is carrying out communications with each transmission device (a first slave of plurality of communication devices) in an active mode according to the Bluetooth specification (a first slave of plurality of communication devices communicates a second slave of plurality of communication devices in parked mode) [Column 3, Line 30-32].

8. Regarding Claim 6, Callaway further discloses that the reception device control unit is also configured to control the reception device communication unit to receive the application data (data packets) transmitted from said one transmission device (a first slave of plurality of communication devices) according to the reception establishing information of said one transmission device (according to the assigned resource parameters of a first slave of plurality of communication devices such as frequency, modulation, protocol, data rate, etc), only when communications in an active mode according to the Bluetooth specification cannot be carried out with said one

transmission device (transmission device carry out transmission only in parked mode)  
[Column 3, Line 30-32].

9. Regarding Claims 7 & 8, Callaway discloses that the reception establishing information that indicates (communication resource parameter such as frequency, modulation, protocol, data rate, etc.) as describes in Claim 1. Although Callaway teaches that all devices in the same Piconet are synchronized to the same hopping sequence (hopping pattern) and each piconet is identified by a different frequency hopping sequence [Column 1, Line 55-60], Callaway does not clearly disclose the reception establishing information indicates the phase and clock of transmission device and Bluetooth device.

Haartsen clearly discloses the ad-hoc wireless network in which master and slave units establish communication by the address (Bluetooth address) of master unit, which determines the hopping sequence and the system clock in the master transceiver unit which determines the phase in the hopping sequence [Column 11, Line 31-47]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made that reception establishing information received by the reception device indicates a hopping pattern, Bluetooth device address, a phase and clock of transmission device as taught by Haarten to establish communication between transmission and reception device.

10. Regarding Claim 9, Callaway discloses that the reception establishing information that indicates (communication resource parameter such as frequency, modulation, protocol, data rate, etc.) as describes in Claim 1. Although Callaway teaches that all devices in the same Piconet are synchronized to the same hopping sequence (hopping pattern) and each piconet is identified by a different frequency hopping sequence [Column 1, Line 55-60]. Callaway does not clearly disclose the reception information providing device communication unit transmits the reception establishing information of the specified transmission device that indicates a Bluetooth device address of the specified transmission device, a clock offset between the specified transmission device and the reception information providing device, and a clock of the reception information providing device at a time of transmitting the reception establishing information to the prescribed reception device.

Haartsen discloses master communication means and slave communication means [Figure 12] [Column 20, Line 63-67] [Column 21, Line 1-18] to generate the hop frequencies at appreciate times (synchronized to the same hopping sequence) based on the master address and determination of the clock difference (clock offset) between the master clock and slave clock after connection has been established (link establish procedure known to one skilled in the in ad-hoc wireless network art in which master determine the slave Bluetooth device address). Haartsen further discloses bridge unit C participating in different piconets 603 and 605 acting as a bridge between the source unit A in the piconet 603 and destination unit B in piconet 605 [Figure 6b] [Column 14, Line 21-53]. Haartesen clearly teaches that bridge unit comprises two transceiver units,

each establish connection with unit A and unit B separately and information is transferred back and forth between two transceiver with bridge unit C by inquiry process which determine the unit addresses of both piconet 603 and piconet 605, and control information. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify reception providing device in Callaway as taught by Haartsen so that the reception information providing device communication unit transmits the reception establishing information of the specified transmission device that indicates a Bluetooth device address of the specified transmission device, a clock offset (time difference) between the specified transmission device and the reception information providing device, and a clock of the reception information providing device at a time of transmitting the reception establishing information to the prescribed reception device to establish connection between the transmission and reception device in different piconets.

11. Claim 10 is rejected for the same reason described above in Claim 9 since clock offset is the function of a clock of the specified transmission device at a time of transmitting the reception establishing information from the specified transmission device to the reception information providing device and a clock of the reception information providing device at a time of receiving the reception establishing information from the specified transmission device.

12. Regarding Claim 11, Callaway discloses that the reception information providing device communication unit (master communication device) receives the request of the reception establishing information of each transmission device by carrying out communications according to the Bluetooth specification (Standard Bluetooth 1.0) with each transmission device [Column 3, Line 42-45].

13. Regarding Claim 12, Callaway discloses all the limitations in the Claim 1 but does not disclose the reception information providing device communication unit carry out communication with each transmission device by communications different from the Bluetooth specification.

Haartsen discloses the ad-hoc wireless network in which master and slave units establish communication by means of a virtual frequency hopping channel whose hopping sequence is a function of the master address, and whose phase is a function of the master clock [Abstract]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Callaway as taught by Haartsen to carry out data communication different from communications according to the Bluetooth specification with each transmission device to operate in different existing data network to provide mechanisms for efficient distribution of data packets.

**Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haartsen et al.	Patent No.:	U.S. 6,570,857 B1
Haartsen	Patent No.:	U.S. 6,754,250 B2
Haartsen	Patent No.:	U.S. 6,519,460 B1
Van Valkenburg et al.	Patent No.:	U.S. 6,775,258 B1
Larsson et al.	Patent No.:	U.S. 6,751,200 B1
Larsson et al.	Patent No.:	U.S. 6,535,498 B1
Ohlenbusch et al.	Pub. No.:	U.S. 2002/0091785 A1
Fritz et al.	Pub. No.:	U.S. 2002/0051184 A1

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aung T. Win whose telephone number is (571) 272-7549. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aung T. Win  
Group Art Unit 2645  
June 21, 2005



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